Date: Fri, 1 Jul 94 04:30:15 PDT
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V94 #207
To: Ham-Ant

Ham-Ant Digest   Fri, 1 Jul 94   Volume 94 : Issue 207

Today's Topics:

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

Date: Thu, 30 Jun 1994 14:03:29 GMT
From: ihnp4.ucsd.edu!swrinde!emory!europa.eng.gtefsd.com!sundog.tiac.net!
usenet.elf.com!rpi!psinntp!arrl.org!zlau@network.ucsd.edu
Subject: A Question On Yagi's
To: ham-ant@ucsd.edu

Nathan Odle Missouri.edu (nathan.odle@woodybbs.com) wrote:
: J>consists of loops rather than poles. It somewhat like a "quad"
: J>antenna, which
: J>is composed of square loops, (and I beleive is also circularly
: J>polarized). I beleive that whether it's a "quad" or a "loop" is
: J>primarly determined by which construction technique is easier at the
: J>frequency that the antenna is built for.
:
:   Correction: Quads are NOT circularly polarized. Horizontal or
: Vertical polarization is determined by where the antenna is fed; if it
: is fed at the "bottom" than it is horizontally polarized. If fed at the

: "side" than it is vertically polarized. Another note on polarization:

Actually, you *can* circularly polarize a Quad antena. It is actually
a little easier than circularly polarizing a Quagi, which involves adding
another set of parasitic elements. What you do is use a pair of good
baluns and a phasing harness to feed the driven element so that it is
circularly polarized. See the January 1990 QST, Circularly Polarized
Quagi Antennas for Space Communications, by Marcus. The author got
good results on 2 meters, but the 70 cm results were mixed--worked,
but should have worked better.

--
Zack Lau KH6CP/1   2 way QRP WAS
                           8 States on 10 GHz
Internet: zlau@arrl.org   10 grids on 2304 MHz

Date: Thu, 30 Jun 94 23:45:32 -0500
From: library.ucla.edu!europa.eng.gtefsd.com!news.umbc.edu!eff!
usenet.ins.cwru.edu!news.ecn.bgu.edu!psuvax1!news.pop.psu.edu!news.cac.psu.edu!
newsserver.jvnc.net!yale.edu!@@ihnp4.ucsd.edu
Subject: Hamsticks, matching coil or caps...
To: ham-ant@ucsd.edu

Hello Andy,
I have had excellent luck with the "Dollar special" listed in the antenna
handbook ya cant beat it!!
73 chris/wu1a

Date: 30 Jun 1994 20:43:27 GMT
From: ihnp4.ucsd.edu!galaxy.ucr.edu!library.ucla.edu!psgrain!news.tek.com!
tekgp4.cse.tek.com!royle@network.ucsd.edu
Subject: HF Mobile Antennas
To: ham-ant@ucsd.edu

gcouger@olesun.okstate.edu (Gordon Couger):

>. . .I beleive that the ARRL antenna book has a current curve that
>shows what happens in a short antenna. It looks like this:
> |.
> | .
> | .

```
>  E
>  E          .
>  |           .
>  |            .
>  |             .
>  |              .
>  feed point
```

>The letter E is the coil. The dots are the current. The drop in the current
>at the coil is proportional to the amount the antenna is shortened.

>Gordon AB5DG

In the 15th edition which I have at work, there is a drawing like this (Fig. 7). It's wrong. The only way you can have a significantly different current at the input and output sides of the coil is if the coil is physically an appreciable fraction of a wavelength long. If it isn't, Kirchoff's law applies and the input and output currents must be equal. Then it looks like the drawing in Fig. 10:

```
  | .
  |    .
  |       .
  E          .
  E          .
  |          .
  |          .
  |          .
  |          .
  feed point .
```

The distribution below the coil is a magnification of the first part of a cosine function, where the value changes very slowly with distance. The distribution above the coil is a magnification of the part of the cosine near the zero crossing, where it's nearly linear. That is, the coil just cuts the middle out of the cosine-shaped distribution.

Roy Lewallen, W7EL
roy.lewallen@tek.com

Date: 29 Jun 94 15:17:12 GMT
From: equalizer!timbuk.cray.com!cdsmail!uchinews!vixen.cso.uiuc.edu!aries!
hawley@network.ucsd.edu
Subject: More mobile antenna questions
To: ham-ant@ucsd.edu

F. Kevin Feeney <fkf1@cornell.edu> writes:

>I've been thinking on how to improve my mobile antenna
>arrangement. Currently I've got a hamstick on the top of
>a dodge caravan, and while this works fairly well on 40,
>it doesn't work well on 80, and it would be nice to put out
>a bigger signal on 40. What occured to me was the idea of
>not just going straight up with the whip, but maybe adding
>on to the whip with wire and going towards the back of the
>van and tying it down in the rear someplace. This would add
>about twice as much radiator to the system - which presumably
>adds to the radiation resistance and requires a smaller coil and
>associated losses to resonate. Has anybody done something like
>this? I think it would lower the profile of the whip too, as it
>would likely bend back and hit fewer things.

The best thing you can do with a hamstick is to increase the length
of the base section. Set the hamstick on top of a 3 or 4 foot mast
mounted off the rear bumper of the van. Anything you do to the whip
up on the roof is going to couple to the vehicle and appear as
capacitance across the coil and lower it's Q. Anyway, the plus from
increasing the whip length is to reduce the coil size, which you
can't do with a hamstick.

>Kevin, WB2EMS

>ps - somebody told me on the air that there is a coil that
>can/should be added to the base of the hamstick type
>radiators to improve the match - anybody got any data on that?
>Can it be homebrewed? It sounded like a 6 turn coil from feedpoint
>to ground with a shorting clip, but the description wasn't all
>that clear
Read the instruction sheet that came with the hamstick. About a
1000pf cap across the feedpoint would match the 80. 470pf for the
40, etc. Or, you can use the matching coil for more flexibility.

Chuck Hawley.....KE9UW.....Urbana, Illinois
hawley@aries.scs.uiuc.edu
School of Chemical Sciences, Electronic Services
University of Illinois, Urbana-Champaign

Date: Fri, 1 Jul 1994 05:28:19 GMT
From: ihnp4.ucsd.edu!usc!crash!marsh@network.ucsd.edu
Subject: NEC
To: ham-ant@ucsd.edu

Hello! I am a relatively new ham (ke6cbr), and would like to do some antenna design. I picked up MININEC3, and tried to run some figures through it, but my designs had too many elements for it to handle. What I would like to find is the maxiNEC program. I understand it's up to about version four, and that it's written in Fortran. This is not a problem. Any help finding the entire NEC program (or even NECPAR.INC) would be terrific.

73
Thomas (ke6cbr)

Date: Thu, 30 Jun 1994 13:53:37 GMT
From: ihnp4.ucsd.edu!swrinde!emory!europa.eng.gtefsd.com!sundog.tiac.net!usenet.elf.com!rpi!psinntp!arrl.org!zlau@network.ucsd.edu
Subject: Quadfiliar Helix For
To: ham-ant@ucsd.edu

Nathan Odle (Missouri) (nathan.odle@woodybbs.com) wrote:
: M>I have seen descriptions of crossed-dipole GPS antennas with a coaxial
: M>scalar horn to control illumination. If you're dealing with a fixed
: M>installation that needs high performance, this might be the way to go,
: M>though they would be more difficult to reproduce. For current
: M>information on GPS receiver hardware, you might check out the
: M>magazine _GPS World_.

:   This might be a dumb question, but why would you want a *fixed* GPS
: station??? Kinda doesn't make sense, huh? Oh well, the answer's
: probably out there somewhere...I just don't see it.

One popular application is to get rid of the intentional error added by the military. Since you know where you are, you can figure out what the error they added and tell other GPS users what correction to use. This is useful to boaters trying to navigate.
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Zack Lau KH6CP/1   2 way QRP WAS
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End of Ham-Ant Digest V94 #207
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